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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,862	12/29/2004	Gerhard Fuhrer	ZAHFRI P707US	9283

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DAVIS & BUJOLD, P.L.L.C.
112 PLEASANT STREET
CONCORD, NH 03301

EXAMINER

LE, DAVID D

ART UNIT	PAPER NUMBER
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3681

DATE MAILED: 09/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/519,862

Applicant(s)

FUHRER, GERHARD

Examiner

David D. Le

Art Unit

3681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) or Renumbered claims 10-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 12/29/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. This is the first Office action on the merits of Application No. 10/519,862, filed on 29 December 2004. Claims 7-13 or renumbered claims 10-16 are pending.

Documents

2. The following documents have been received and filed as part of the patent application:
 - Information Disclosure Statement, received on 12/29/04
 - Replacement Drawings, received on 12/29/04
 - Foreign Priority Document, received on 12/29/04

Drawings

3. The replacement drawings were received on 29 December 2004. These drawings are approved.

Claim Objections

4. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Telephone conversation between applicant's attorney, Michael J. Bujold, and examiner, on 15 September 2006, clarified that the original claims 1-9 should be cancelled and the newly submitted misnumbered claims 7-13 should be renumbered as follows:

- Misnumbered claim 7 has been renumbered as 10.
- Misnumbered claim 8 has been renumbered as 11.
- Misnumbered claim 9 has been renumbered as 12.
- Misnumbered claim 10 has been renumbered as 13.
- Misnumbered claim 11 has been renumbered as 14.
- Misnumbered claim 12 has been renumbered as 15.
- Misnumbered claim 13 has been renumbered as 16.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. **Renumbered claims 12, 13 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

Renumbered claims 12 and 13:

- Renumbered claim 12 recites the limitation "each motor shaft". Since line 8 of renumbered claim 10 only requires one motor shaft (6), it is unclear whether the renumbered claim 12 is referring to more than one motor shaft.

Renumbered claim 16:

- Line 4 recites the limitation “form fit with an idler wheel”. It is unclear whether the claim is referring to the form-locking type of clutching engagement between the sliding sleeves and the idler wheels or the form-fitting type of mounting the sliding sleeves onto the idler wheels.

Claim Rejections - 35 USC § 103

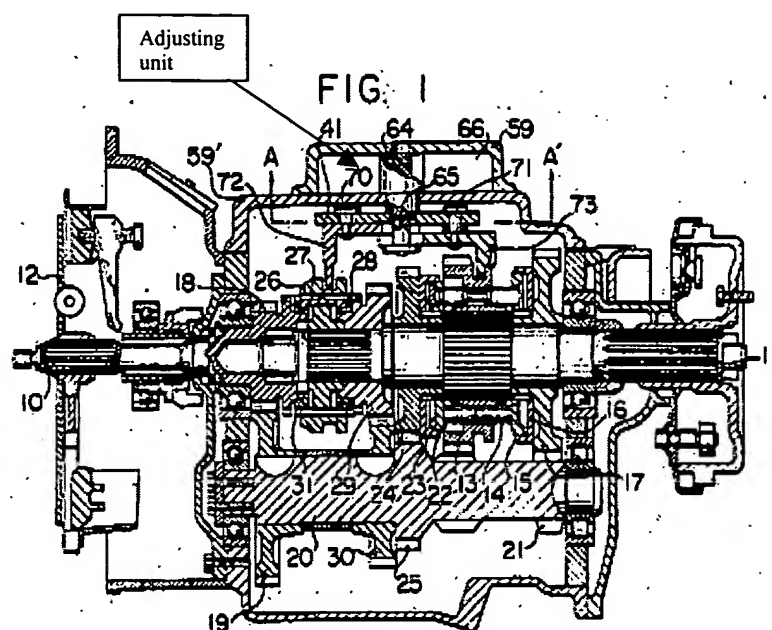
7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Renumbered claims 10-13 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent No. 3,677,104 to Hirozawa et al. in view of U. S. Patent No. 4,228,694 to Adam.**

Renumbered claims 10-13 and 15-16:

Hirozawa (Figs. 1-3; column 1, line 48 – column 4, line 38) discloses a speed change mechanism comprising:



- A plurality of sliding sleeves (i.e., Fig. 1, elements 13 and 26) the sliding sleeves being torsionally fixed with a main shaft (i.e., Fig. 1, element 11) and forming locking with idler wheel (i.e., Fig. 1, elements 17, 24 and 29) to be shifted by means of axial displacement;
- At least one adjusting unit (i.e., Fig. 1, element Adjusting unit above) in communication with each of the plurality of sliding sleeves to actuate each of the plurality of sliding sleeves;
- An actuator (i.e., Fig. 1, being the combination of elements 64, 65, 41, 70, 71, 72 and 73) selected by the at least one adjusting unit such that a shifting actuation of the respective sliding sleeve is possible;
- Wherein the fork (i.e., Fig. 1, element 72 or 73) reaches dead centers of a shifting path of the sliding sleeve during a circular motion of the shaft (i.e., Fig. 1, element

64) and that the sliding sleeve maintains the form-locking connection of the idler wheel to be shifted in the dead center (i.e., Fig. 1);

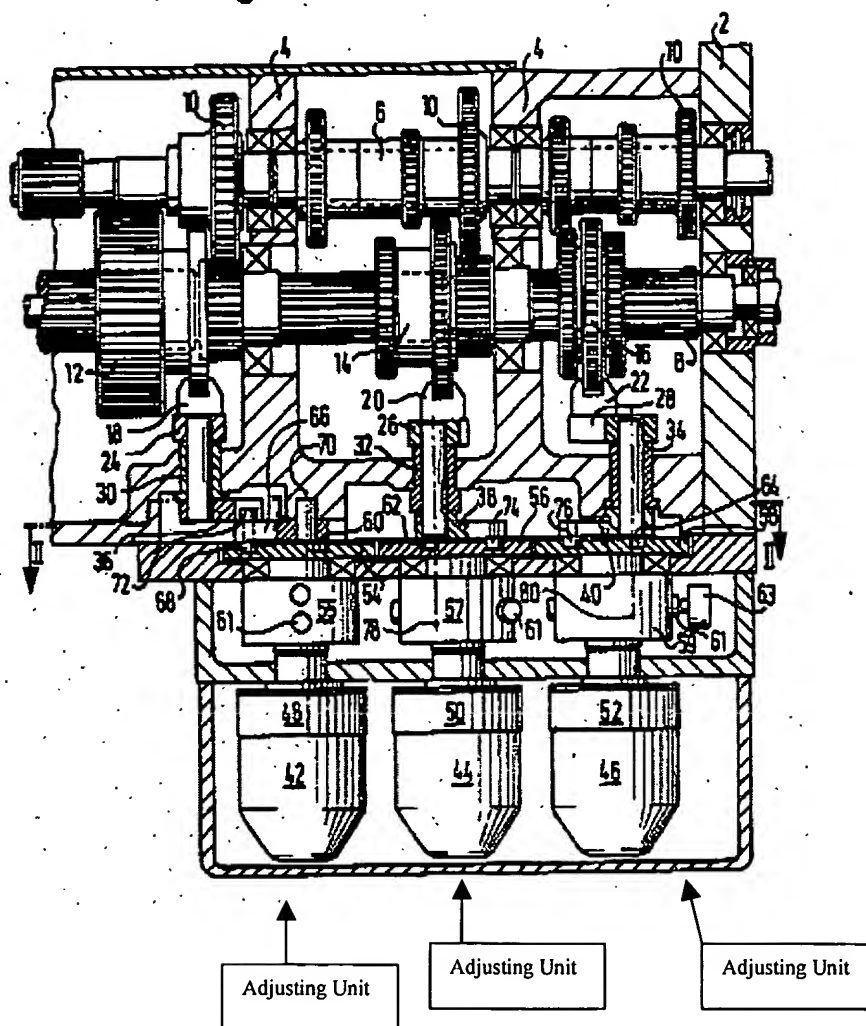
- A governor (i.e., Fig. 3, element 51) for coordinating the shifting operation of the vehicle.

Hirozawa lacks:

- Wherein the adjusting unit includes an electric servo-motor and a pin which actuates the sliding sleeve, the pin is provided eccentrically on a motor shaft of the servo-motor as the adjusting unit;
- Wherein at least one detection device is provided for detecting rotational positions of the motor shaft; and
- Wherein the detection device is integrated into the adjusting unit.

Adam (Figs. 1-8; column 1, line 29 – column 6, line 53), on the other hand, teaches a shifting device comprising:

Fig.1



- A plurality of adjusting units (i.e., Fig. 1, elements Adjusting units above);
- Wherein each of the adjusting units includes an electric servo-motor (i.e., Fig. 1, element 42, 44 or 46) and a pin (i.e., Fig. 1, element 68, 74 or 76) for operatively actuating the sliding sleeve;
- At least one detection device (i.e., Fig. 8, being one of elements 171-178) is provided for detecting rotational positions of the motor shaft; and
- Wherein the detection device is integrated into the adjusting unit.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hirozawa such that the hydraulic servo-shifting assembly is replaced with the electric servo-motor assembly, in view of Adam, in order to provide a shifting assembly that is simple in construction and inexpensive to produce (Adam, column 1, lines 24-27).

9. Renumbered claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent No. 3,677,104 to Hirozawa et al. in view of U. S. Patent No. 4,228,694 to Adam.

Renumbered claim 14:

Hirozawa in view of Adam discloses the limitations as set forth in paragraph 8 above. Regarding claim 14, Hirozawa lacks:

- Wherein two adjusting units are provided on each sliding sleeve, the adjusting units are arranged offset about the main shaft at an angle of about 180 degrees.

Note:

It should be noticed that the present specification does not provide the advantages of mounting two adjusting units on each of the sliding sleeve or arranging the adjusting units on the main shaft at an angle of about 180 degrees.

It would have been obvious to one having ordinary skill in the art at the time this invention was made to include a second adjusting unit on each of the sliding sleeves,

since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. V. Bemis Co.*, 193 USPQ 8.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time this invention was made to arrange the two adjusting units at an angle of about 180 degrees from each other, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

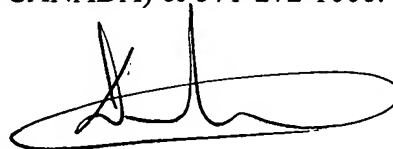
- Ore (U. S. Patent No. 6,698,312) teaches a torque disconnect mechanism, a shown in Fig. 1.
- Yoshioka et al. (U. S Patent No. 6,481,304) teaches a driving-state switching device, as shown in Fig.1.
- Schaller et al. (U. S. Patent No. 6,065,363) teaches an electromechanical shift device, as shown in Fig. 1.
- Egawa (U. S. Patent No. 4,951,792) teaches a clutch change gear transmission, as shown in Fig. 6.
- Sassen (U. S. Patent No. 4,618,046) teaches a shifting coupling, as shown in Fig. 1.

- Hattori et al. (U. S. Patent No. 4,601,369) teaches a method of electronically controlling the shifting of a vehicle, as shown in Fig. 1.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David D. Le whose telephone number is 571-272-7092. The examiner can normally be reached on Mon-Fri (0700-1530).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on 571-272-7095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



David D. Le
Examiner
Art Unit 3681
09/16/06